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SOAH DOCKET NO. 473-21-0538

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APPLICATION OF SOUTHWESTERN § BEFORE THE STATE OFFICE
ELECTRIC POWER COMPANY FOR § OF
AUTHORITY TO CHANGE RATES § ADMINISTRATIVE HEARINGS

REDACTED

DIRECT TESTIMONY AND ATTACHMENTS

OF

SCOTT NORWOOD

ON BEHALF OF

CITIES ADVOCATING REASONABLE DEREGULATION

MARCH 31, 2021

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Attachment SN-8 **HIGHLY SENSITIVE** - Excerpts from SWEPCO's Contract with Cajun Electric Cooperative for Purchased Operating Reserves (CARD 1-8)

Attachment SN-9 Excerpt from SWEPCO witness Mertz's Rebuttal Testimony in PUC Docket No. 50997

WORKPAPERS

Provided on CD

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DIRECT TESTIMONY AND ATTACHMENTS OF SCOTT NORWOOD

I. INTRODUCTION

Q. PLEASE STATE YOUR NAME, TITLE AND BUSINESS ADDRESS.

A. My name is Scott Norwood. I am President of Norwood Energy Consulting, L.L.C. My business address is P.O. Box 30197, Austin, Texas 78755-3197.

Q. WHAT IS YOUR OCCUPATION?

A. I am an energy consultant specializing in the areas of electric utility regulation, resource planning and energy procurement.

Q. PLEASE SUMMARIZE YOUR EDUCATIONAL BACKGROUND AND PROFESSIONAL EXPERIENCE.

A. I have over 35 years of experience in the electric utility industry. Since January of 2004, I have served as President and sole proprietor of Norwood Energy Consulting, L.L.C. In this capacity, I have provided electric utility regulatory consulting services to electric consumer and governmental organizations. My consulting practice has been focused primarily on the areas of electric resource planning; power supply system dispatch and operations; transmission planning analyses; and evaluations of electric utility fuel supply and purchased power issues. Before founding Norwood Energy Consulting, I was employed for 18 years as a Principal and Director of the Deregulation Services Department of GDS Associates, Inc., an electric utility consulting firm. From 1984 to 1986, I was employed as Manager of Power Plant Engineering for the Staff of the Public Utility Commission of Texas ("Commission" or "PUC"), where I was responsible for analyzing and presenting testimony addressing resource planning, fuel, and purchased power cost issues arising from electric utility regulatory filings with the Commission. From 1980 to

1 1984, I was employed by Austin Energy as a Power Plant Engineer, in which capacity I
2 directed electrical maintenance and design projects at three gas-fired power plants. I
3 received my Bachelor of Science degree in electrical engineering from the University of
4 Texas in December of 1980. A more detailed summary of my background and experience
5 is attached to my testimony.¹

6 **Q. ON WHOSE BEHALF ARE YOU TESTIFYING IN THIS CASE?**

7 A. I am testifying on behalf of the Cities Advocating Reasonable Deregulation (“CARD”).

8 **Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE PUCT AND OTHER**
9 **REGULATORY COMMISSIONS?**

10 A. Yes. I have testified in more than 200 previous regulatory proceedings involving electric
11 restructuring, base rate, plant certification, and fuel reconciliation issues, both as a
12 consultant to electric consumers and as a former member of the PUC's staff. I have testified
13 in several previous Southwestern Electric Power Company (“SWEPCO” or “Company”)
14 rate and fuel reconciliation cases, including the Company’s last two fuel reconciliation
15 cases (PUC Docket Nos. 50997 and 47553), the Company’s 2017 base rate case (PUC
16 Docket No. 46449), and the Company’s 2017 and 2019 applications requesting approval
17 of ownership of major wind energy projects (PUC Docket Nos. 47461 and 49737). I also
18 testified in the Company’s most recent base rate case in Arkansas. Through my work in
19 these past cases I have become familiar with the Company’s operations. Outside of Texas,
20 I also have testified on electric utility ratemaking, operational, and planning issues before
21 state regulatory commissions in Arkansas, Georgia, Illinois, Iowa, Michigan, Missouri,
22 New Jersey, Louisiana, Oklahoma, Virginia, Washington and Wisconsin.²

23 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS CASE?**

24 A. The purpose of my testimony is to present my analysis and recommendations regarding
25 certain issues underlying SWEPCO’s request for a \$90.2 million (26%) increase in base
26 rate revenues. The Company’s rate increase is based on the 12-month historical test year
27 period extending from April 1, 2019 through March 31, 2020 (“Test Year”).

¹ See Attachment SN-1.

² *Id.*

1 **Q. HAVE YOU PREPARED ANY ATTACHMENTS TO SUPPORT YOUR**
2 **TESTIMONY?**

3 A. Yes. I have prepared 9 attachments, which are included as attachments to my testimony.

4 **II. SUMMARY OF RECOMMENDATIONS**

5 **Q. PLEASE SUMMARIZE YOUR MAJOR FINDINGS AND RECOMMENDATIONS.**

6 A. My primary findings and recommendations are as follows:

7 1) SWEPCO has not adjusted its Test Year O&M expenses to reflect the scheduled
8 retirement of the Company's Dolet Hills lignite-fired generating unit in December
9 of 2021, which is approximately 2 months after the Company's new base rates are
10 expected to be placed into effect. By failing to account for the retirement of Dolet
11 Hills, SWEPCO's proposed revenue requirement is unreasonably inflated and
12 therefore exceeds the level that is necessary to serve customers when rates will be
13 in effect. I recommend that the O&M for Dolet Hills reflected in the Company's
14 new base rates be adjusted to reflect a Total Company expense level of
15 approximately \$2.1 million. This recommendation reduces SWEPCO's requested
16 Test Year O&M expense for Dolet Hills by approximately \$10.4 million on a Total
17 Company basis.

18 2) SWEPCO's non-fuel O&M request does not reasonably account for the recent
19 retirements of 5 gas-fired generating units. These gas unit retirements are known
20 changes that will reduce O&M expenses from the level incurred during the Test
21 Year. To address this problem, I recommend that the non-fuel O&M expense
22 requested by SWEPCO for the Lieberman, Knox Lee, and Lone Star generating
23 stations be reduced to reflect an allowed Total Company expense level of
24 approximately \$9.58 million. My recommended adjustment for this issue reduces
25 SWEPCO's requested Test Year O&M expense for the Lieberman, Knox Lee, and
26 Lone Star generating stations by approximately \$1.1 million on a Total Company
27 basis.

1 3) SWEPCO has requested to recover approximately \$79 million in rate base for coal
2 and lignite fuel inventory.³ This inventory request is excessive and based on
3 unjustified inventory targets that do not reflect the reduction in energy produced
4 from the Company's coal and lignite units over the last several years, or the
5 upcoming retirement of Dolet Hills in December 2021. I recommend that
6 SWEPCO's requested coal and lignite inventory for the Flint Creek, Pirkey, Turk,
7 and Welsh plants be reduced to reflect a 30-day target inventory and the Test Year
8 average daily burn levels for these respective plants. I further recommend that
9 SWEPCO's requested lignite inventory for Dolet Hills be entirely disallowed
10 because the plant is scheduled to be retired two months after the Company's new
11 rates are placed into effect and, therefore, will not require fuel inventory. My
12 recommendations reduce SWEPCO's requested coal and lignite inventory to 1.25
13 million tons, and thereby reduces the Company's coal and lignite fuel inventory cost
14 by approximately \$54.5 million on a Total Company basis.

15 4) SWEPCO proposes to recover approximately *****BEGIN HIGHLY SENSITIVE**
16 [REDACTED] **END HIGHLY SENSITIVE***** it incurred during the Test Year to
17 purchase operating reserves from Cajun Electric Power Cooperative, Inc. ("Cajun
18 Contract") through the Company's new base rates. This proposal is inconsistent
19 with SWEPCO's treatment of purchased operating reserves costs in PUC Docket
20 No. 50997, the Company's pending fuel reconciliation proceeding, and with past
21 Commission orders that provide for recovery of costs of purchased operating
22 reserves through utility fuel factors as reconcilable energy expense. I recommend
23 that the costs of operating reserves purchased by SWEPCO under the Cajun Contract
24 be removed from base rates and recovered through the Company's fuel factor as
25 reconcilable purchased energy costs, beginning with the effective date of new rates
26 approved in this case. My recommended adjustment for this issue reduces
27 SWEPCO's Test Year purchased power expenses by *****BEGIN HIGHLY**

³ See **HIGHLY SENSITIVE** Attachment SN-2.

1 **SENSITIVE** [REDACTED] **END HIGHLY SENSITIVE***** on a Total Company
2 basis.

3 CARD witness Karl Nalepa presents the Texas Retail impact of each of my recommended
4 adjustments in his Direct Testimony. The rationale for my findings and proposed
5 recommendations are discussed in further detail below.

6 **III. DOLET HILLS NON-FUEL O&M EXPENSE**

7 **Q. WHAT IS THE ISSUE REGARDING SWEPCO'S REQUEST FOR DOLET HILLS**
8 **NON-FUEL O&M EXPENSE?**

9 A. SWEPCO has announced that it plans to retire Dolet Hills no later than December of 2021,
10 which is approximately 2 months after the Company's new base rates are scheduled to be
11 placed into effect.⁴ However, SWEPCO's rate increase application does not adjust the
12 Test Year O&M expense for Dolet Hills to reflect the scheduled retirement of the plant in
13 December 2021.⁵ By ignoring the retirement of Dolet Hills, SWEPCO's requested revenue
14 requirement is unreasonably inflated since there will be no significant operations and
15 maintenance costs after the plant has been retired.

16 **Q. WHAT IS THE LEVEL OF TEST YEAR NON-FUEL O&M REQUESTED BY**
17 **SWEPCO FOR DOLET HILLS?**

18 A. SWEPCO incurred approximately \$12.5 million for the Company's 257 MW (40.28%)
19 ownership share of Dolet Hills non-fuel O&M during the Test Year, and is requesting that
20 the entire \$12.5 million amount be included in its new base rates.⁶

21 **Q. WOULD IT BE PROPER TO INCLUDE THE TEST YEAR LEVEL OF DOLET**
22 **HILLS NON-FUEL O&M EXPENSE IN THE REVENUE REQUIREMENT TO BE**
23 **COLLECTED THROUGH SWEPCO'S NEW BASE RATES?**

24 A. No. SWEPCO will not incur significant non-fuel O&M expenses at Dolet Hills after the
25 plant is retired, which is only a few months after the Company's new base rates are placed
26 into effect. In fact, because the operations of Dolet Hills have been restricted primarily to

⁴ See Direct Testimony and Exhibits of Monte McMahon at 11. ("McMahon Direct at ____").

⁵ See Attachment SN-3, SWEPCO's response CARD 2-13.

⁶ See Attachment SN-4, SWEPCO's responses to CARD 1-15 and Schedule H-1.2.

1 summer months, the O&M expenditures for the plant are likely to be greatly reduced by
2 the time the Company's new base rates are placed into effect.

3 **Q. WHAT IS YOUR RECOMMENDATION ON THIS ISSUE?**

4 A. I recommend that the O&M for Dolet Hills reflected in the Company's new base rates be
5 adjusted to reflect a Total Company expense level of approximately \$2.1 million. My
6 recommendation is based on allowing SWEPCO to recover two months of expense at the
7 Test Year average monthly O&M expense level of \$1.04 million per month.⁷ My
8 recommended adjustment for this issue reduces SWEPCO's requested Test Year O&M
9 expense for Dolet Hills by approximately \$10.4 million on a Total Company basis.

10 **IV. RETIRED GAS-FIRED UNITS O&M EXPENSE**

11 **Q. WHAT IS THE ISSUE REGARDING SWEPCO'S NON-FUEL O&M EXPENSE**
12 **REQUEST FOR THE COMPANY'S GAS-FIRED GENERATING UNITS?**

13 A. SWEPCO's non-fuel O&M request does not reasonably account for the fact that the
14 Company retired 5 gas-fired generating units during and immediately preceding and
15 following the Test Year. These retirements are known changes that will reduce O&M
16 expenses from the level incurred during the Test Year. Because SWEPCO did not
17 reasonably adjust Test Year O&M expenses to reflect these gas unit retirements, the
18 Company's requested revenue requirement is unrealistically inflated.

19 **Q. WHAT ARE THE GAS UNITS WHICH SWEPCO RECENTLY RETIRED?**

20 A. As summarized in Table 1 below, SWEPCO retired 5 gas units with a combined capacity
21 of 167 MW immediately before and shortly after the Test Year end.⁸

⁷ See Attachment SN-5.

⁸ See McMahon Direct at pages 9-10.

Table 1
SWEPCO Retired Gas-Fired Units

<u>Plant/Unit</u>	<u>MW</u>	<u>Retirement Date</u>
Knox Lee Unit 2	30	5/1/20
Knox Lee Unit 3	31	5/1/20
Knox Lee Unit 4	30	1/1/19
Lieberman Unit 2	26	5/1/20
Lone Star Unit 1	<u>50</u>	5/1/20
Total Retired	167	

Q. WHAT IS YOUR RECOMMENDATION ON THIS ISSUE?

A. I recommend that the non-fuel O&M expense SWEPCO is requesting for the Lieberman, Knox Lee, and Lone Star generating stations be reduced to reflect a Total Company expense level of approximately \$9.58 million.⁹ My recommendation is based on adjusting the Test Year expense for each plant to reflect the level of generating capacity retirements made at each plant. My recommended adjustment for this issue reduces SWEPCO's requested Test Year O&M expense for the Lieberman, Knox Lee, and Lone Star generating stations by approximately \$1.1 million on a Total Company basis.

V. COAL AND LIGNITE FUEL INVENTORY

Q. WHAT IS THE ISSUE REGARDING SWEPCO'S REQUEST FOR COAL AND LIGNITE FUEL INVENTORY IN THIS CASE?

A. SWEPCO has requested to recover approximately \$79 million in rate base for coal and lignite fuel inventory.¹⁰ This request is based on unjustified inventory targets that do not reflect the reduction in energy produced from the Company's coal and lignite units over the last several years, or the upcoming retirement of Dolet Hills in December 2021. As a result, SWEPCO's fuel inventory request greatly overstates the level of inventory that is

⁹ See Attachment SN-6.

¹⁰ See **HIGHLY SENSITIVE** Attachment SN-2.

1 needed to ensure continuous operations of the units can be achieved in the event of a fuel
2 supply disruption event.

3 **Q. WHAT ARE SWEPCO'S COAL AND LIGNITE INVENTORY TARGETS?**

4 A. SWEPCO's requested coal and lignite inventory totals approximately 1.92 million tons.¹¹
5 The Company's requested coal and lignite inventory reflects the estimated quantity of fuel
6 necessary to operate SWEPCO's ownership share of the Welsh, Turk, Flint Creek, and
7 Pirkey generating units for 30 days at continuous full load production levels, and to operate
8 the Company's share of Dolet Hills for 45 days at full load.¹²

9 **Q. WHY IS THE LEVEL OF COAL AND LIGNITE INVENTORY REQUESTED BY**
10 **SWEPCO EXCESSIVE?**

11 A. The 1.92 million tons of coal and lignite inventory requested by SWEPCO is excessive for
12 two primary reasons. First, the Company's inventory targets are based on 30 days or more
13 of continuous operations of the units at full load; however, as shown in Table 2 below,
14 from 2014 through 2019, the total energy production level of SWEPCO's coal and lignite
15 units has decreased by approximately 36.5%, and is forecasted to continue to decrease over
16 the next several years with the scheduled retirements of the Dolet Hills and Pirkey plants.

¹¹ See **HIGHLY SENSITIVE** Attachment SN-2.

¹² *Id.*

Table 2

SWEPCO Coal and Lignite Unit Energy Production (MWh) ¹³

<u>Year</u>	<u>Coal</u>	<u>Lignite</u>	<u>Total</u>
2014	13,003,710	5,564,011	18,567,721
2015	10,055,152	5,749,048	15,804,200
2016	8,333,489	5,763,315	14,096,804
2017	10,294,571	4,486,396	14,780,967
2018	9,815,696	4,436,723	14,252,419
2019	8,676,347	3,110,283	11,786,630

Decrease: 36.5%

The second primary reason why SWEPCO's coal and lignite inventory request is excessive is that it does not adjust for the fact that the Company's Dolet Hills plant is scheduled to be retired no later than December 2021, which is approximately 2 months after the Company's new rates will be placed into effect. By ignoring this known material change in Dolet Hills operations, SWEPCO's lignite inventory request inflates the Company's inventory requirement to a level that is not reasonable or necessary to maintain a reliable supply of fuel for the Company's coal and lignite plants.

Q. WHAT IS YOUR RECOMMENDATION REGARDING SWEPCO'S COAL AND LIGNITE FUEL INVENTORIES?

A. I recommend that SWEPCO's requested coal and lignite inventory for the Flint Creek, Pirkey, Turk and Welsh plants be reduced to approximately 617,571 tons, which would provide enough fuel to supply 30-days of operation at the Test Year average daily burn levels for these plants.¹⁴ I further recommend that SWEPCO's requested lignite inventory for Dolet Hills be entirely disallowed because the plant is scheduled to be retired no later than two months after the Company's new rates are placed into effect and, therefore, will not require fuel inventory in the future. My recommendations reduce SWEPCO's requested coal and lignite inventory by approximately 1.25 million tons, and thereby

¹³ Source is SWEPCO's FERC Form 1 filings.

¹⁴ See Attachment SN-7.

1 reduces the associated coal and lignite fuel inventory cost for the Company to
2 approximately \$24.6 million.¹⁵ This adjustment reduces SWEPCO's requested fuel
3 inventory by approximately \$54.5 million on a Total Company basis.

4 VI. PURCHASED OPERATING RESERVES COSTS

5 **Q. WHAT IS THE ISSUE REGARDING SWEPCO'S PROPOSED RATEMAKING**
6 **TREATMENT OF COSTS INCURRED FOR PURCHASED OPERATING**
7 **RESERVES DURING THE TEST YEAR?**

8 A. SWEPCO proposes to recover approximately *****BEGIN HIGHLY SENSITIVE**
9 **END HIGHLY SENSITIVE***** it incurred during the Test Year to purchase
10 operating reserves from Cajun Electric Power Cooperative, Inc. ("Cajun Contract")
11 through the Company's new base rates.¹⁶ The Company proposes to treat such costs as
12 capacity costs for the purpose of allocation to Texas Retail customer classes. This proposed
13 treatment is inconsistent with SWEPCO's treatment of purchased operating reserves costs
14 in PUC Docket No. 50997, the Company's pending fuel reconciliation proceeding. The
15 Company's proposed recovery of purchased operating reserves costs through base rates is
16 also inconsistent with the Commission's Final Order in PUC Docket No. 48973, which
17 concluded that costs of purchased operating reserves were reconcilable purchased energy
18 costs and therefore recoverable through the fuel factor.¹⁷

19 **Q. HOW DOES SWEPCO'S PROPOSED RATEMAKING TREATMENT OF**
20 **PURCHASED OPERATING RESERVE COSTS INCURRED UNDER THE**
21 **CAJUN CONTRACT DIFFER FROM THE COMPANY'S TREATMENT OF**
22 **COSTS OF PURCHASED OPERATING RESERVES IN PUC DOCKET NO.**
23 **50997?**

24 A. In PUC Docket No. 50997, SWEPCO proposes to treat purchased operating reserves as
25 reconcilable purchase energy costs, and recover such costs through the Company's fuel
26 factor. SWEPCO's proposal in this case to recover purchased operating reserves through
27 base rates as capacity costs is entirely inconsistent with the Company's treatment of such
28 costs in Docket No. 50997. In rebuttal testimony in Docket No. 50997, SWEPCO witness

¹⁵ See Attachment SN-7.

¹⁶ See **HIGHLY SENSITIVE** Attachment SN-8.

¹⁷ See PUC Docket No. 48973, Proposal for Decision at 14 and Order on Rehearing at Finding of Fact No. 98 (Feb 18, 2020).

1 Scott Mertz testified that “Regulation and operating reserve service purchases are energy-
2 related amounts recorded in FERC Account 555 Purchased Power and are appropriately
3 included in eligible fuel expense.”¹⁸

4 **Q. WHAT IS YOUR RECOMMENDATION ON THIS ISSUE?**

5 A. I recommend that the costs of operating reserves purchased by SWEPCO under the Cajun
6 Contract should be removed from base rates and recovered through the Company’s fuel
7 factor as reconcilable purchased energy costs, beginning with the effective date of new
8 rates approved in this case. My recommended adjustment for this issue reduces
9 SWEPCO’s requested Test Year purchases power costs by *****BEGIN HIGHLY**
10 **SENSITIVE [REDACTED] END HIGHLY SENSITIVE***** on a Total Company basis.

11 **Q. DOES THAT CONCLUDE YOUR DIRECT TESTIMONY?**

12 A. Yes.

¹⁸ See Attachment SN-9, excerpt from Mertz Rebuttal Testimony in PUC Docket No. 50997.

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DIRECT TESTIMONY AND ATTACHMENTS

OF

SCOTT NORWOOD

ATTACHMENT SN-1

Background, Experience and Past Testimony

DON SCOTT NORWOOD
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SUMMARY

Scott Norwood is an energy consultant with over 37 years of utility industry experience in the areas of regulatory consulting, resource planning and energy procurement. His clients include government agencies, publicly-owned utilities, public service commissions, municipalities and various electric consumer interests. Over the last 15 years Mr. Norwood has presented expert testimony on electric utility ratemaking, resource planning, and electric utility restructuring issues in over 200 regulatory proceedings in Arkansas, Georgia, Iowa, Illinois, Michigan, Missouri, New Jersey, Oklahoma, South Dakota, Texas, Virginia, Washington and Wisconsin.

Prior to founding Norwood Energy Consulting in January of 2004, Mr. Norwood was employed for 18 years by GDS Associates, Inc., a Marietta, Georgia based energy consulting firm. Mr. Norwood was a Principal of GDS and directed the firm's Deregulated Services Department which provided a range of consulting services including merchant plant due diligence studies, deregulated market price forecasts, power supply planning and procurement projects, electric restructuring policy analyses, and studies of power plant dispatch and production costs.

Before joining GDS, Mr. Norwood was employed by the Public Utility Commission of Texas as Manager of Power Plant Engineering from 1984 through 1986. He began his career in 1980 as Staff Electrical Engineer with the City of Austin's Electric Utility Department where he was in charge of electrical maintenance and design projects at three gas-fired power plants.

Mr. Norwood is a graduate of the college of electrical engineering of the University of Texas.

EXPERIENCE

The following summaries are representative of the range of projects conducted by Mr. Norwood over his 30-year consulting career.

Regulatory Consulting

Oklahoma Industrial Energy Consumers - Assisted client with technical and economic analysis of proposed EPA regulations and compliance plans involving control of air emissions and potential conversion of coal-to-gas conversion options.

Cities Served by Southwestern Electric Power Company – Analyzed and presented testimony regarding the prudence of a \$1.7 billion coal-fired power plant and related settlement agreements with Sierra Club.

New York Public Service Commission - Conducted inter-company statistical benchmarking analysis of Consolidated Edison Company to provide the New York Public Service Commission with guidance in determining areas that should be reviewed in detailed management audit of the company.

Oklahoma Industrial Energy Consumers - Analyzed and presented testimony on affiliate energy trading transactions by AEP in ERCOT.

Virginia Attorney General – Analyzed and presented testimony regarding distribution tap line undergrounding program proposed by Dominion Virginia Power Company.

Cities Served by Southwestern Electric Power Company – Analyzed and presented testimony regarding the prudence of the utility's decision to retire the Welsh Unit 2 coal-fired generating unit in conjunction with a litigation settlement agreement with Sierra Club.

Georgia Public Service Commission - Presented testimony before the Georgia Public Service Commission in Docket 3840-U, providing recommendations on nuclear O&M levels for Hatch and Vogtle and recommending that a nuclear performance standard be implemented in the State of Georgia.

Oklahoma Industrial Energy Consumers - Analyzed and presented testimony addressing power production and coal plant dispatch issues in fuel prudence cases involving Oklahoma Gas and Electric Company.

Georgia Public Service Commission - Analyzed and provided recommendations regarding the reasonableness of nuclear O&M costs, fossil O&M costs and coal inventory levels reported in GPC's 1990 Surveillance Filing.

City of Houston - Analyzed and presented comments on various legislative proposals impacting retail electric and gas utility operations and rates in Texas.

New York Public Service Commission - Conducted inter-company statistical benchmarking analysis of Rochester Gas & Electric Company to provide the New York Public Service Commission with guidance in determining areas which should be reviewed in detailed management audit of the company.

Virginia Attorney General – Analyzed and presented testimony regarding an accelerated vegetation management program and rider proposed by Appalachian Power Company.

Oklahoma Attorney General – Analyzed and presented testimony regarding fuel and purchased power, depreciation and other expense items in Oklahoma Gas & Electric Company's 2001 rate case before the Oklahoma Corporation Commission.

City of Houston - Analyzed and presented testimony regarding fossil plant O&M expense levels in Houston Lighting & Power Company's rate case before the Public Utility Commission of Texas.

City of El Paso - Analyzed and presented testimony regarding regulatory and technical issues related to the Central & Southwest/El Paso Electric Company merger and rate proceedings before the PUCT, including analysis of merger synergy studies, fossil O&M and purchased power margins.

Residential Ratepayer Consortium - Analyzed Fermi 2 replacement power and operating performance issues in fuel reconciliation proceedings for Detroit Edison Company before the Michigan Public Service Commission.

Residential Ratepayer Consortium - Analyzed and prepared testimony addressing coal plant outage rate projections in the Consumer's Power Company fuel proceeding before the Michigan Public Service Commission.

City of El Paso - Analyzed and developed testimony regarding Palo Verde operations and maintenance expenses in El Paso Electric Company's 1991 rate case before the Public Utility Commission of Texas.

City of Houston - Analyzed and developed testimony regarding the operations and maintenance expenses and performance standards for the South Texas Nuclear Project, and operations and maintenance expenses for the Limestone and Parish coal-fired power plants in HL&P's 1991 rate case before the PUCT.

City of El Paso - Analyzed and developed testimony regarding Palo Verde operations and maintenance expenses in El Paso Electric Company's 1990 rate case before the Public Utility Commission of Texas. Recommendations were adopted.

Energy Planning and Procurement Services

Virginia Attorney General – Review and provide comments or testimony regarding annual integrated resource plan filings made by Dominion Virginia Power and Appalachian Power Company.

Dell Computer Corporation – Negotiated retail power supply agreement for Dell's Round Rock, Texas facilities producing annual savings in excess of \$2 million.

Texas Association of School Boards Electric Aggregation Program – Serve as TASB's consultant in the development, marketing and administration of a retail electric aggregation program consisting of 2,500 Texas schools with a total load of over 300 MW. Program produced annual savings of more than \$30 million in its first year.

Oklahoma Industrial Energy Consumers - Analyzed and drafted comments addressing integrated resource plan filings by Public Service Company of Oklahoma and Oklahoma Gas and Electric Company.

S.C. Johnson - Analyzed and presented testimony addressing Wisconsin Electric Power Company's \$4.1 billion CPCN application to construct three coal-fired generating units in southeast Wisconsin.

Oklahoma Industrial Energy Consumers - Analyzed wind energy project ownership proposals by Oklahoma Gas and Electric Company and presented testimony addressing project economics and operational impacts.

City of Chicago, Illinois Attorney General, Illinois Citizens' Utility Board - Analyzed Commonwealth Edison's proposed divestiture of the Kincaid and State Line power plants to SEI and Dominion Resources.

Georgia Public Service Commission - Analyzed and presented testimony on Georgia Power Company's integrated resource plan in a certification proceeding for an eight unit, 640 MW combustion turbine facility.

South Dakota Public Service Commission - Evaluated integrated resource plan and power plant certification filing of Black Hills Power & Light Company.

Shell Leasing Co. - Evaluated market value of 540 MW western coal-fired power plant.

Community Energy Electric Aggregation Program – Served as Community Energy's consultant in the development, marketing and start-up of a retail electric aggregation program consisting of major charitable organizations and their donors in Texas.

Austin Energy – Conducted competitive solicitation for peaking capacity. Developed request for proposal, administered solicitation and evaluated bids.

Austin Energy - Provided technical assistance in the evaluation of the economic viability of the

City of Austin's ownership interest in the South Texas Project.

Austin Energy - Assisted with regional production cost modeling analysis to assess production cost savings associated with various public power merger and power pool alternatives.

Sam Rayburn G&T Electric Cooperative - Conducted competitive solicitation for peaking capacity. Developed request for proposal, administered solicitation and evaluated bids.

Rio Grande Electric Cooperative, Inc. - Directed preparation of power supply solicitation and conducted economic and technical analysis of offers.

Virginia Attorney General – Review and provide comments or testimony regarding annual demand-side management program programs and rider proposals made by Dominion Virginia Power and Appalachian Power Company.

Austin Energy – Conducted modeling to assess potential costs and benefits of a municipal power pool in Texas.

Electric Restructuring Analyses

Electric Power Research Institute - Evaluated regional resource planning and power market dispatch impacts on rail transportation and coal supply procurement strategies and costs.

Arkansas House of Representatives – Critiqued proposed electric restructuring legislation and identified suggested amendments to provide increased protections for small consumers.

Virginia Legislative Committee on Electric Utility Restructuring – Presented report on status of stranded cost recovery for Virginia’s electric utilities.

Georgia Public Service Commission – Developed models and a modeling process for preparing initial estimates of stranded costs for major electric utilities serving the state of Georgia.

City of Houston – Evaluated and recommended adjustments to Reliant Energy’s stranded cost proposal before the Public Utility Commission of Texas.

Oklahoma Attorney General – Evaluated and advised the Attorney General on technical, economic and regulatory policy issues arising from various electric restructuring proposals considered by the Oklahoma Electric Restructuring Advisory Committee.

State of Hawaii Department of Business, Economics and Tourism – Evaluated electric restructuring proposals and developed models to assess the potential savings from deregulation of the Oahu power market.

Virginia Attorney General - Served as the Attorney General’s consultant and expert witness in the evaluation of electric restructuring legislation, restructuring rulemakings and utility proposals addressing retail pilot programs, stranded costs, rate unbundling, functional separation plans, and competitive metering.

Western Public Power Producers, Inc. - Evaluated operational, cost and regional competitive impacts of the proposed merger of Southwestern Public Service Company and Public Service Company of Colorado.

Iowa Department of Justice, Consumer Advocate Division - Analyzed stranded investment and fuel recover issues resulting from a market-based pricing proposal submitted by MidAmerican Energy Company.

Cullen Weston Pines & Bach/Citizens’ Utility Board - Evaluated estimated costs and benefits of the proposed merger of Wisconsin Energy Corporation and Northern States Power Company (Primergy).

City of El Paso - Evaluated merger synergies and plant valuation issues related to the proposed acquisition and merger of El Paso Electric Company and Central & Southwest Company.

Rio Grande Electric Cooperative, Inc. - Analyzed stranded generation investment issues for Central Power & Light Company.

Power Plant Management

City of Austin Electric Utility Department - Analyzed the 1994 Operating Budget for the South Texas Nuclear Project (STNP) and assisted in the development of long-term performance and expense projections and divestiture strategies for Austin's ownership interest in the STNP.

City of Austin Electric Utility Department - Analyzed and provided recommendations regarding the 1991 capital and O&M budgets for the South Texas Nuclear Project.

Sam Rayburn G&T Electric Cooperative - Developed and conducted operational monitoring program relative to minority owner's interest in Nelson 6 Coal Station operated by Gulf States Utilities.

KAMO Electric Cooperative, City of Brownsville and Oklahoma Municipal Power Agency - Directed an operational audit of the Oklaunion coal-fired power plant.

Sam Rayburn G&T Electric Cooperative - Conducted a management/technical assessment of the Big Cajun II coal-fired power plant in conjunction with ownership feasibility studies for the project.

Kamo Electric Power Cooperative - Developed and conducted operational monitoring program for client's minority interest in GRDA Unit 2 Coal Fired Station.

Northeast Texas Electric Cooperative - Developed and conducted operational monitoring program concerning NTEC's interest in Pirkey Coal Station operated by Southwestern Electric Power Company and Dolet Hills Station operated by Central Louisiana Electric Company.

Corn Belt Electric Cooperative/Central Iowa Power Cooperative - Perform operational monitoring and budget analysis on behalf of co-owners of the Duane Arnold Energy Center.

PRESENTATIONS

Quantifying Impacts of Electric Restructuring: Dynamic Analysis of Power Markets, 1997 NARUC Winter Meetings, Committee on Finance and Technology.

Quantifying Costs and Benefits of Electric Utility Deregulation: Dynamic Analysis of Regional Power Markets, International Association for Energy Economics, 1996 Annual North American Conference.

**SOAH DOCKET NO. 473-21-0538
PUC DOCKET NO. 51415**

**APPLICATION OF SOUTHWESTERN § BEFORE THE STATE OFFICE
ELECTRIC POWER COMPANY FOR § OF
AUTHORITY TO CHANGE RATES § ADMINISTRATIVE HEARINGS**

DIRECT TESTIMONY AND ATTACHMENTS

OF

SCOTT NORWOOD

ATTACHMENT SN-2

REDACTED

**Information Supporting SWEPCO's Request
for Coal and Lignite Inventory**

SOAH DOCKET NO. 473-21-0538
PUC DOCKET NO. 51415

**SOUTHWESTERN ELECTRIC POWER COMPANY'S RESPONSE TO CITIES
ADVOCATING REASONABLE DEREGULATION'S SEVENTH SET OF REQUESTS
FOR INFORMATION**

Question No. CARD 7-26:

Please provide the volume (tons) and associated dollar value of coal inventory requested by SWEPCO in rates in this case for each coal plant.

Response No. CARD 7-26:

Please refer to Schedule E2.2.

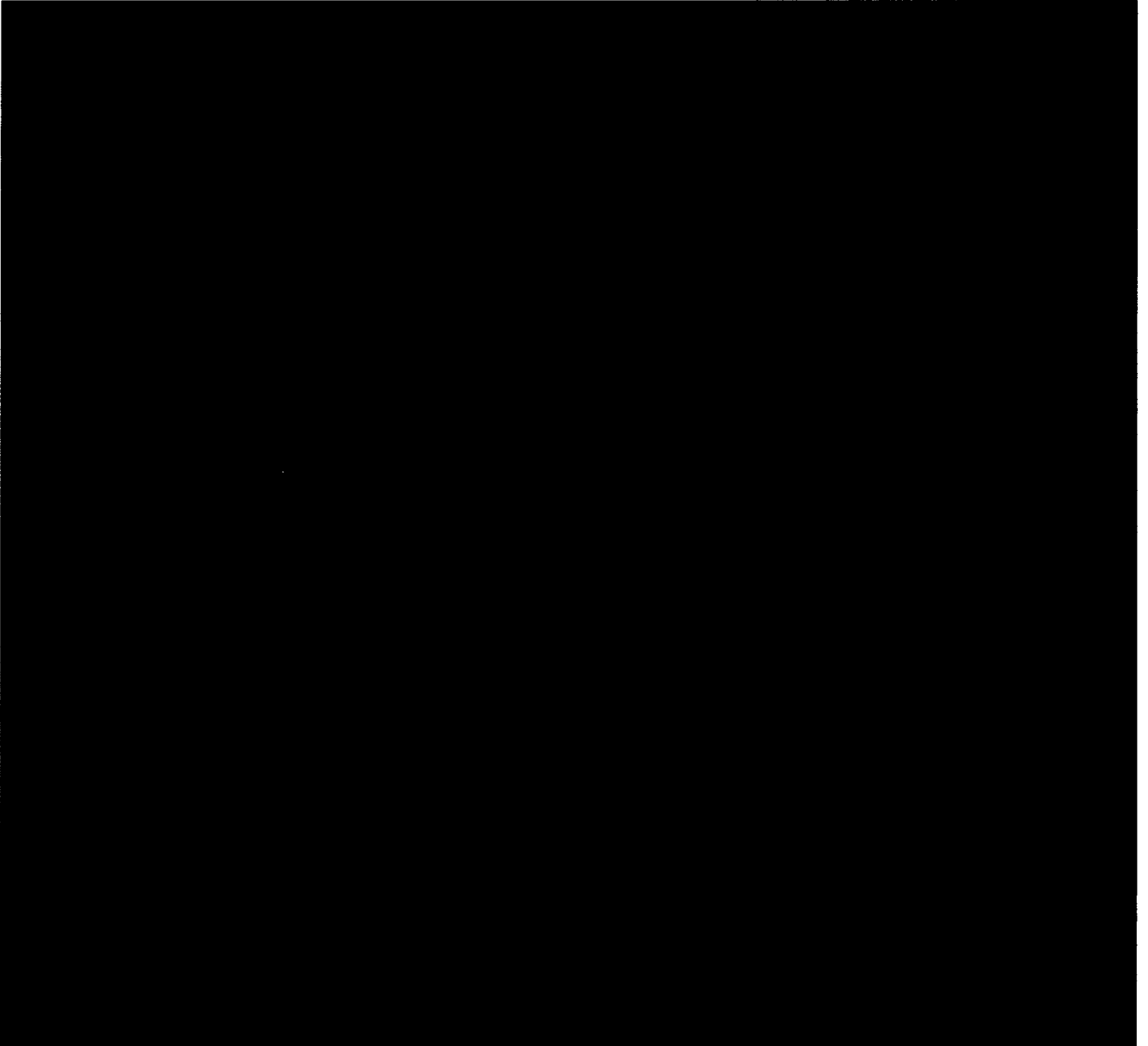
Prepared By: Michael H. Ward

Title: Regulatory Consultant Staff

Sponsored By: Amy E. Jeffries

Title Coal Procurement Mgr

Final - 01/06/2025 - 01/06/2025 - 01/06/2025



SOAH DOCKET NO. 473-21-0538
PUC DOCKET NO. 51415

**SOUTHWESTERN ELECTRIC POWER COMPANY'S RESPONSE TO CITIES
ADVOCATING REASONABLE DEREGULATION'S SEVENTH SET OF REQUESTS
FOR INFORMATION**

Question No. CARD 7-27:

Please provide SWEPCO's current coal inventory target (tons and days burn) along with supporting analysis and assumptions for each coal plant.

Response No. CARD 7-27:

Please refer to CARD 7-27 Highly Sensitive Attachment 1.

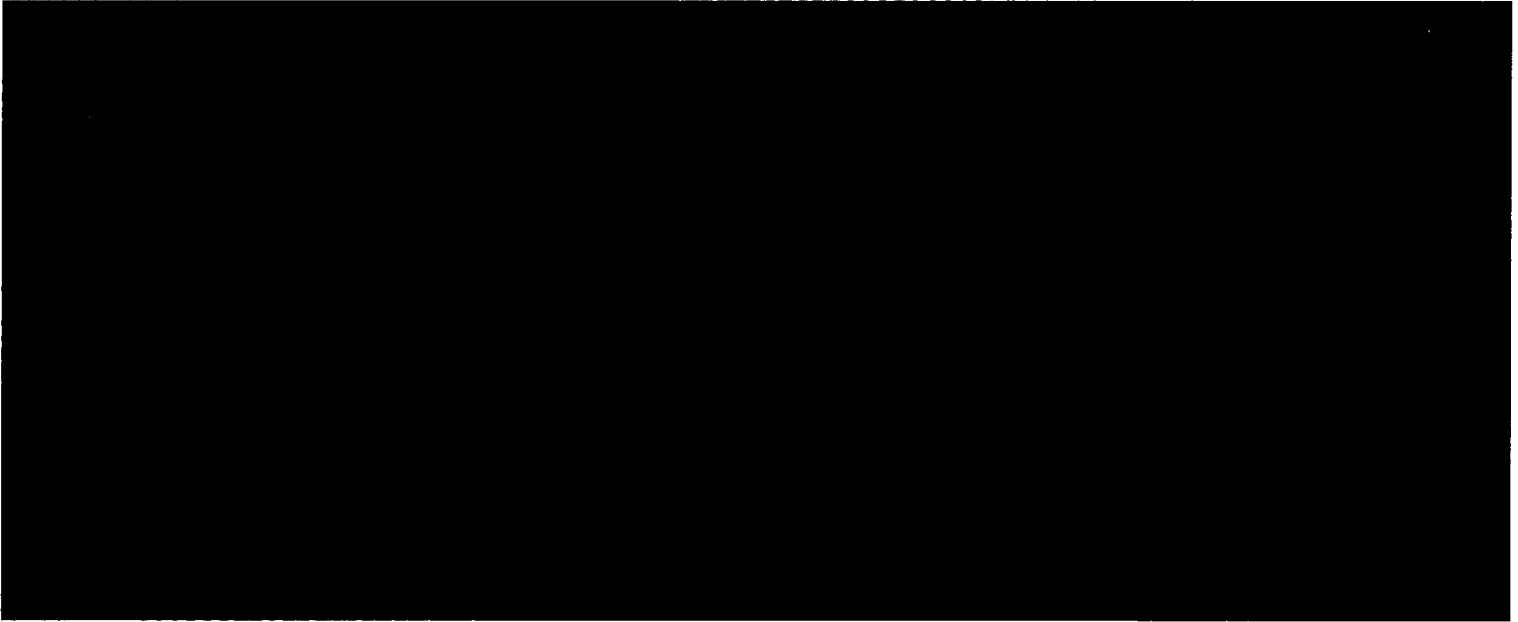
CARD 7-27 HIGHLY SENSITIVE Attachment 1 responsive to this request is HIGHLY SENSITIVE PROTECTED MATERIAL under the terms of the Protective Order. Due to current restrictions associated with COVID-19, this information is being provided electronically and a secure login to access the information will be provided upon request to individuals who have signed the Protective Order Certification.

Prepared By: Michael H. Ward

Title: Regulatory Consultant Staff

Sponsored By: Amy E. Jeffries

Title: Coal Procurement Mgr



SOAH DOCKET NO. 473-21-0538
PUC DOCKET NO. 51415

**SOUTHWESTERN ELECTRIC POWER COMPANY'S RESPONSE TO CITIES
ADVOCATING REASONABLE DEREGULATION'S SEVENTH SET OF REQUESTS
FOR INFORMATION**

Question No. CARD 7-28:

Please provide the average daily coal burn (tons) for each SWEPCO coal-fired generating unit for the test year, 2017, 2018, and as currently forecasted for 2021, 2022 and 2023

Response No. CARD 7-28:

Plant (Total)	2017	2018	Test Year	2021	2022	2023
FLINT CREEK	4,682.7	4,509.6	3,241.7	3,811.5	3,067.8	3,056.4
TURK	6,259.9	5,934.9	5,315.6	4,022.2	4,979.8	4,386.5
WELSH	9,611.6	9,675.7	6,697.9	5,466.9	2,493.0	1,339.9

Prepared By: Michael H. Ward

Title: Regulatory Consultant Staff

Sponsored By: Amy E. Jeffries

Title: Coal Procurement Mgr

SOAH DOCKET NO. 473-21-0538
PUC DOCKET NO. 51415

**SOUTHWESTERN ELECTRIC POWER COMPANY'S RESPONSE TO CITIES
ADVOCATING REASONABLE DEREGULATION'S SEVENTH SET OF REQUESTS
FOR INFORMATION**

Question No. CARD 7-29:

Please provide the volume (tons) and associated dollar value of lignite inventory requested by SWEPCO in rates in this case for Pirkey and for Dolet Hills

Response No. CARD 7-29:

Please refer to Schedule E2.2

Prepared By: Michael H. Ward

Title: Regulatory Consultant Staff

Sponsored By: Amy E. Jeffries

Title: Coal Procurement Mgr

SOAH DOCKET NO. 473-21-0538
PUC DOCKET NO. 51415

**SOUTHWESTERN ELECTRIC POWER COMPANY'S RESPONSE TO CITIES
ADVOCATING REASONABLE DEREGULATION'S SEVENTH SET OF REQUESTS
FOR INFORMATION**

Question No. CARD 7-30:

Please provide SWEPCO's current lignite inventory target (tons and days burn) along with supporting analysis and assumptions for Pirkey and for Dolet Hills.

Response No. CARD 7-30:

Please see CARD 7-27 HIGHLY SENSITIVE Attachment 1

Prepared By: Michael H Ward

Title: Regulatory Consultant Staff

Sponsored By: Amy E. Jeffries

Title: Coal Procurement Mgr

SOAH DOCKET NO. 473-21-0538
PUC DOCKET NO. 51415

**SOUTHWESTERN ELECTRIC POWER COMPANY'S RESPONSE TO CITIES
ADVOCATING REASONABLE DEREGULATION'S SEVENTH SET OF REQUESTS
FOR INFORMATION**

Question No. CARD 7-31:

Please provide the average daily lignite burn (tons) for SWEPCO's share of Pirkey and Dolet Hills for the test year, 2017, 2018, and as currently forecasted for 2021, 2022 and 2023.

Response No. CARD 7-31:

Plant (SWEPCO Share)	2017	2018	Test Year	2021	2022	2023
DOLET HILLS	1,850.5	1,206.3	1,149.8	915.2	-	-
PIRKEY	8,525.2	9,006.2	5,330.5	6,688.9	5,384.6	2,915.4

Prepared By: Michael H. Ward

Title: Regulatory Consultant Staff

Sponsored By: Amy E. Jeffries

Title: Coal Procurement Mgr

**SOAH DOCKET NO. 473-21-0538
PUC DOCKET NO. 51415**

**APPLICATION OF SOUTHWESTERN § BEFORE THE STATE OFFICE
ELECTRIC POWER COMPANY FOR § OF
AUTHORITY TO CHANGE RATES § ADMINISTRATIVE HEARINGS**

DIRECT TESTIMONY AND ATTACHMENTS

OF

SCOTT NORWOOD

ATTACHMENT SN-3

SWEPCO's Response to CARD 2-13

**SOAH DOCKET NO. 473-21-0538
PUC DOCKET NO. 51415**

**SOUTHWESTERN ELECTRIC POWER COMPANY'S RESPONSE TO
CITIES ADVOCATING REASONABLE DEREGULATION'S
SECOND SET OF REQUESTS FOR INFORMATION**

Question No. CARD 2-3:

Please identify the in-service dates, nameplate capacity (MW) and estimated firm capability (MW) of each new SWEPCO generating resource under construction or planned for the next 10 calendar years.

Response No. CARD 2-3:

SWEPCO will add approximately 810 MW of nameplate wind by the summer peak of 2022 from the North Central Wind facility. The 2019 SWEPCO Louisiana IRP process identified 600 MW of additional nameplate wind capacity by the summer peak period of 2023 and 200 MW of nameplate solar capacity by 2023. See the response to CARD 2-2 for the estimated firm capacity for those resource additions.

Prepared By: Mark A. Becker

Title: Resource Planning Mgr

Sponsored By: Thomas P. Brice

Title: VP Regulatory & Finance

Sponsored By: Monte A. McMahon

Title: VP Generating Assets SWEPCO

**SOAH DOCKET NO. 473-21-0538
PUC DOCKET NO. 51415**

**APPLICATION OF SOUTHWESTERN § BEFORE THE STATE OFFICE
ELECTRIC POWER COMPANY FOR § OF
AUTHORITY TO CHANGE RATES § ADMINISTRATIVE HEARINGS**

DIRECT TESTIMONY AND ATTACHMENTS

OF

SCOTT NORWOOD

ATTACHMENT SN-4

SWEPCO's Response to CARD 1-15 and Schedule H-1.2

**SOAH DOCKET NO. 473-21-0538
PUC DOCKET NO. 51415**

**SOUTHWESTERN ELECTRIC POWER COMPANY'S RESPONSE
TO CITIES ADVOCATING REASONABLE DEREGULATION'S
FIRST SET OF REQUESTS FOR INFORMATION**

Question No. CARD 1-15:

Provide non-fuel production O&M expenses for each SWEPCO power plant by FERC account for each of the last four calendar years, the test year, and as requested in rates in this case.

Response No. CARD 1-15:

Please CARD 1-15 Attachment 1 for the production O&M expenses for each SWEPCO power plant as reported in the FERC Form 1 for the last four calendar years. The following table provides line references to applicable FERC Accounts.

Line No.	FERC Account
19	500, 546
20	501, 547
21	N/A
22	502
23	503
24	504
25	505, 548
26	506, 549
27	507
28	509
29	510, 551
30	511, 552
31	512
32	513, 553
33	514, 554

Please see Schedule H-1.2 for the test year O&M expenses for each SWEPCO power plant by FERC account.

The Company has not developed the requested amount by power plant as most adjustments were not calculated on a power plant basis. SWEPCO will note that its overall adjustments reduce non-

SOAH Docket No. 473-21-0538
PUC Docket No. 51415
CARD's 1st, Q. # CARD 1-15
Page 2 of 2

fuel production O&M by almost \$2.5 million including payroll related adjustments, AEPSC adjustments and retired plant O&M reductions which make up the largest adjustments to these accounts. The retired plant adjustment specifically reduced non-fuel O&M by almost \$600 thousand for plant retirements at Knox Lee (\$30,193), Lone Star (\$486,326) and Lieberman (\$81,690).

Prepared By: Randall W. Hamlett

Title: Dir Regulatory Acctg Svcs

Sponsored By: Michael A. Baird

Title: Mng Dir Acctng Policy & Rsrch

**SOAH DOCKET NO. 473-21-0538
PUC DOCKET NO. 51415**

**APPLICATION OF SOUTHWESTERN § BEFORE THE STATE OFFICE
ELECTRIC POWER COMPANY FOR § OF
AUTHORITY TO CHANGE RATES § ADMINISTRATIVE HEARINGS**

DIRECT TESTIMONY AND ATTACHMENTS

OF

SCOTT NORWOOD

ATTACHMENT SN-5

Recommended Adjustment to Requested Dolet Hills O&M Expense

CARD Recommended Adjustment to Requested Dolet Hills O&M Expense

	<u>MW</u>	<u>MWh</u>	<u>NFOM</u>
2016	257	1,389,838	\$19,638,373
2017	257	795,019	\$18,018,269
2018	257	496,345	\$14,664,528
2019	257	463,288	\$10,652,719
TY 4/19-3/20	257		\$12,466,950
SWP Adj to TY			<u>\$0</u>
SWP Request			\$12,466,950
CARD Adjustment			<u>-\$12,466,950</u>
CARD Recommended			\$0

**SOAH DOCKET NO. 473-21-0538
PUC DOCKET NO. 51415**

**APPLICATION OF SOUTHWESTERN § BEFORE THE STATE OFFICE
ELECTRIC POWER COMPANY FOR § OF
AUTHORITY TO CHANGE RATES § ADMINISTRATIVE HEARINGS**

DIRECT TESTIMONY AND ATTACHMENTS

OF

SCOTT NORWOOD

ATTACHMENT SN-6

Recommended Adjustment to Requested for Retired Gas Unit O&M Expenses

CARD Recommended Adjustment for Retired Gas Unit O&M Expense

LIEBERMAN O&M - UN2 RET 5/20

	<u>MW</u>	<u>MWh</u>	<u>NFOM</u>	<u>NFOM, \$/kW</u>
2016	242	56,817	\$4,499,271	\$18.6
2017	242	35,012	\$5,729,746	\$23.7
2018	242	66,732	\$4,792,443	\$19.8
2019	242	77,862	\$4,976,341	\$20.6
TYE 3/31/20	217		\$4,878,929	\$20.2
SWP Adj to TY			-\$81,690	
SWP Request	217		\$4,797,239	
CARD RECOM	217	CARD RECOM:	\$4,374,907	\$20.2
		CARD ADJUST	-\$422,332	

KNOX LEE O&M - UN2&3 RET 5/20; UN4 RET 1/19

	<u>MW</u>	<u>MWh</u>	<u>NFOM</u>	<u>NFOM, \$/kW</u>
2016	469	136,800	\$5,888,025	\$12.6
2017	469	51,891	\$6,569,673	\$14.0
2018	469	142,518	\$7,144,416	\$15.2
2019	390	107,853	\$6,075,141	\$15.6
Test Year	390		\$5,902,713	\$15.1
SWP Adj to TY			-\$30,193	
SWP Request	344		\$5,872,520	\$17.1
	344	CARD RECOM:	\$5,206,496	\$15.1
		CARD ADJUST	-\$666,024	

LONE STAR O&M - UN1 RET 5/20

	<u>MW</u>	<u>MWh</u>	<u>NFOM</u>	<u>NFOM, \$/kW</u>
2016	50	8,530	\$779,438	\$15.6
2017	50	1,131	\$118,002	\$2.4
2018	50	5,918	\$387,665	\$7.8
2019	50	11,736	\$470,420	\$9.4
TY (4/19-3/20)	50		\$499,640	\$10.0
SWP Adj to TY			-\$486,326	
SWP Request			\$13,314	
		CARD RECOM:	\$0	\$8.6
		CARD ADJUST	-\$13,314	

TOTAL SWEPCO REQUEST	\$10,683,073
TOTAL CARD RECOM:	\$9,581,403
TOTAL CARD ADJUST:	-\$1,101,670

**SOAH DOCKET NO. 473-21-0538
PUC DOCKET NO. 51415**

**APPLICATION OF SOUTHWESTERN § BEFORE THE STATE OFFICE
ELECTRIC POWER COMPANY FOR § OF
AUTHORITY TO CHANGE RATES § ADMINISTRATIVE HEARINGS**

DIRECT TESTIMONY AND ATTACHMENTS

OF

SCOTT NORWOOD

ATTACHMENT SN-7

Recommended Adjustment to Requested Coal and Lignite Inventory

CARD Recommended Adjustment to Coal and Lignite Inventory

Plant	SWEPCO MW	Fuel Type	Target Inventory		Requested Inventory, \$	Avg Inventory Value, \$/Ton	TY Avg Burn Tons per Day	Recommended Inventory Tons		Recommended Inventory Adjustment, \$	
			Days Full Load	Inventory Tons				Avg Burn	Inventory	Inventory	Adjustment, \$
Flint Creek	258	Sub-Bituminous	30	230,694	\$7,184,879	\$31.04	3,242	97,251	\$3,018,671		-\$4,166,208
Pirkey	580	Lignite	30	397,530	\$16,962,044	\$50.24	5,331	159,915	\$8,034,130		-\$8,927,914
Turk	650	Sub-Bituminous	30	235,328	\$8,404,762	\$37.48	5,316	159,468	\$5,976,861		-\$2,427,901
Welsh	1053	Sub-Bituminous	30	475,294	\$17,978,663	\$37.67	6,698	200,937	\$7,569,297		-\$10,409,366
Dolet Hills	257	Lignite	45	<u>581,344</u>	<u>\$28,528,383</u>	\$121.97	1,150	0	<u>\$0</u>		<u>-\$28,528,383</u>
				1,920,191	\$79,058,731			617,571	\$24,598,958		-\$54,459,773

**SOAH DOCKET NO. 473-21-0538
PUC DOCKET NO. 51415**

**APPLICATION OF SOUTHWESTERN § BEFORE THE STATE OFFICE
ELECTRIC POWER COMPANY FOR § OF
AUTHORITY TO CHANGE RATES § ADMINISTRATIVE HEARINGS**

DIRECT TESTIMONY AND ATTACHMENTS

OF

SCOTT NORWOOD

ATTACHMENT SN-8

REDACTED

**Highly Sensitive Excerpts from SWEPCO's Contract with Cajun Electric Cooperative
For Purchased Operating Reserves (CARD 1-8)**

SOAH DOCKET NO. 473-21-0538
PUC DOCKET NO. 51415

SOUTHWESTERN ELECTRIC POWER COMPANY'S RESPONSE
TO CITIES ADVOCATING REASONABLE DEREGULATION'S
FIRST SET OF REQUESTS FOR INFORMATION

Question No. CARD 1-8:

Provide copies of all SWEPCO purchased power agreements that included non-fuel or capacity charges that were in effect during the test year period.

Response No. CARD 1-8:

Please see CARD 1-8 HIGHLY SENSITIVE Attachment 1 for the requested information.

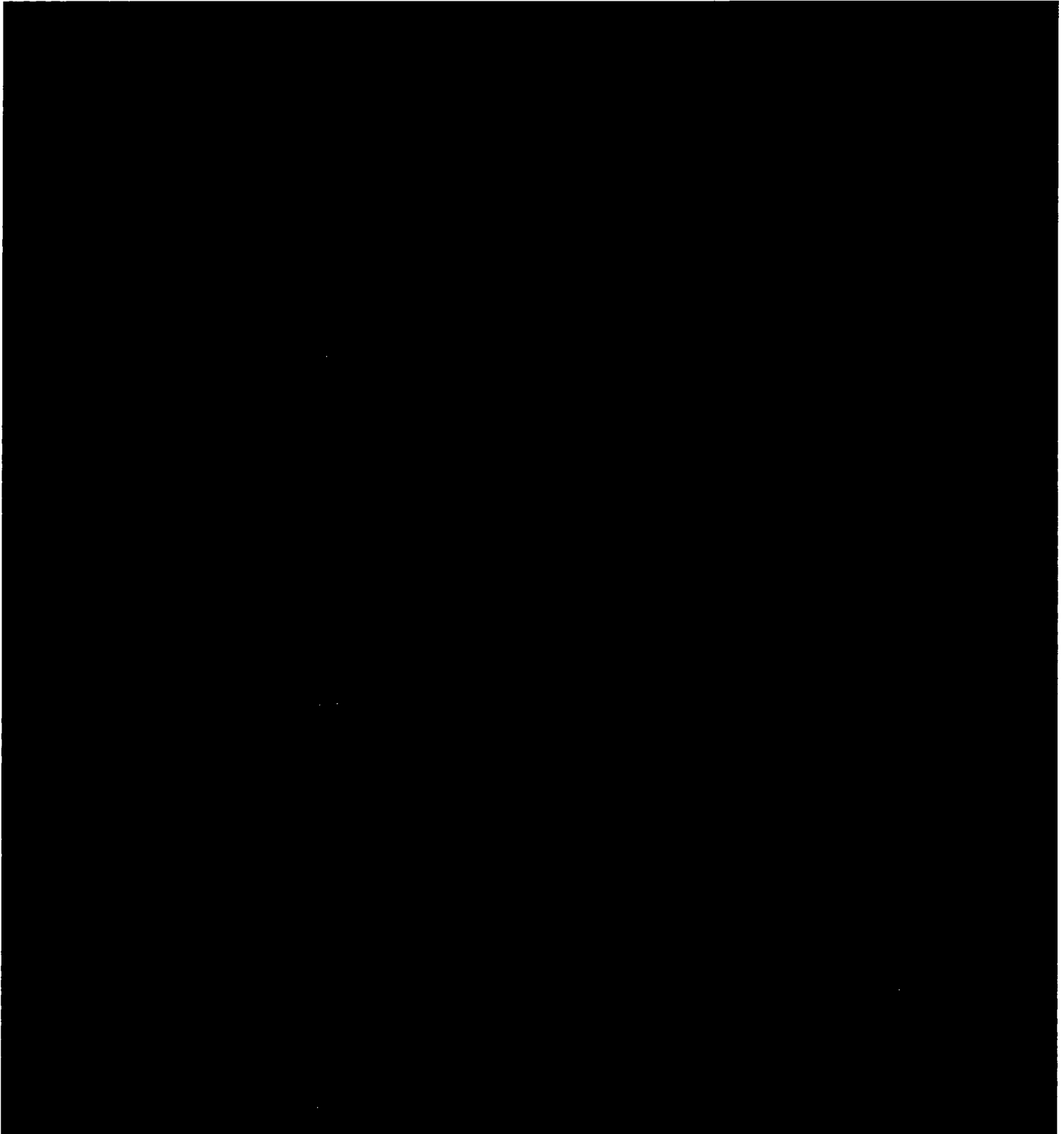
The attachment responsive to this request is HIGHLY SENSITIVE MATERIAL under the terms of the Protective Order. Due to current restrictions associated with COVID-19, this information is being provided electronically and a secure login to access the information will be provided upon request to individuals who have signed the Protective Order Certification.

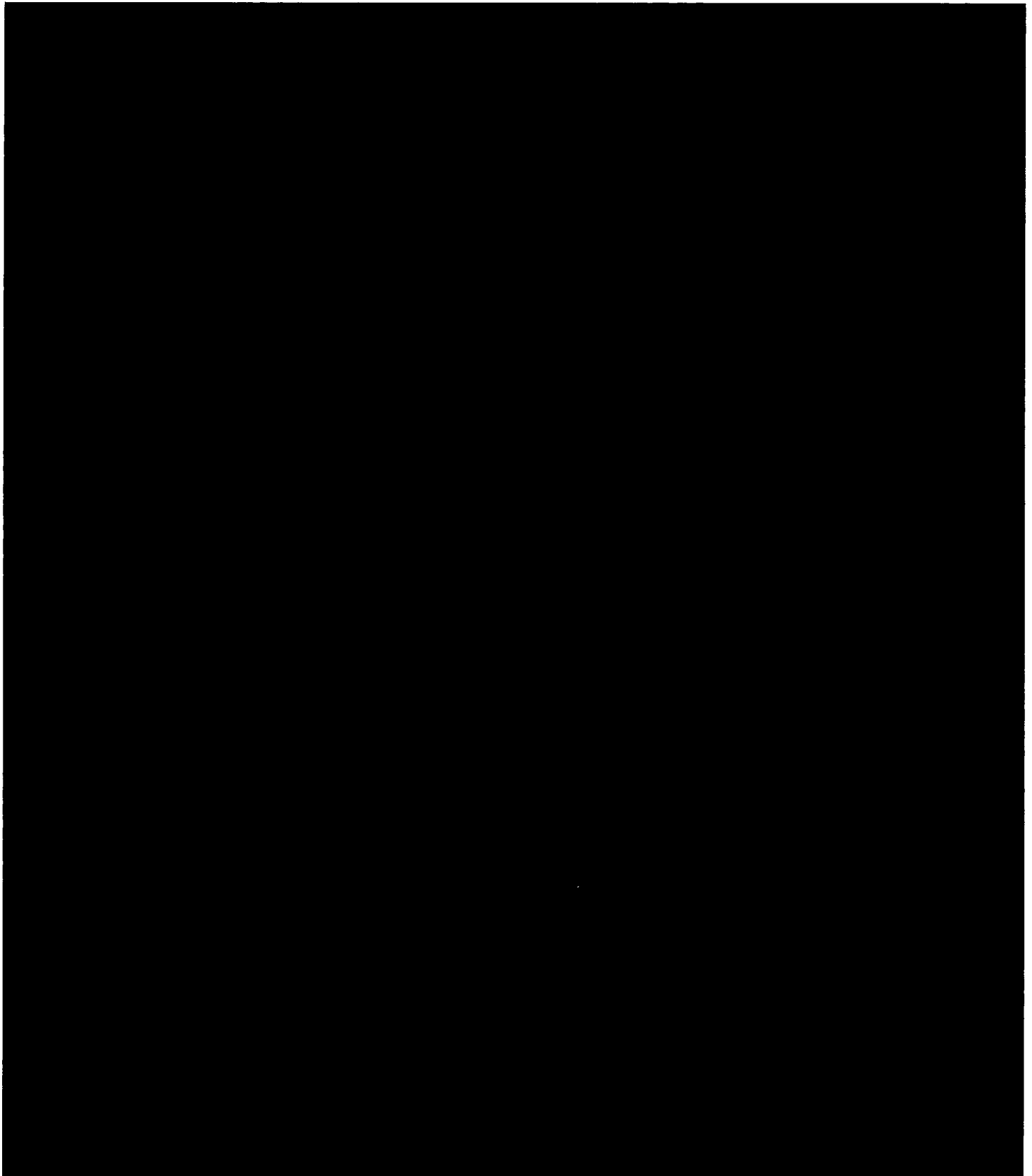
Prepared By: Scott E. Mertz

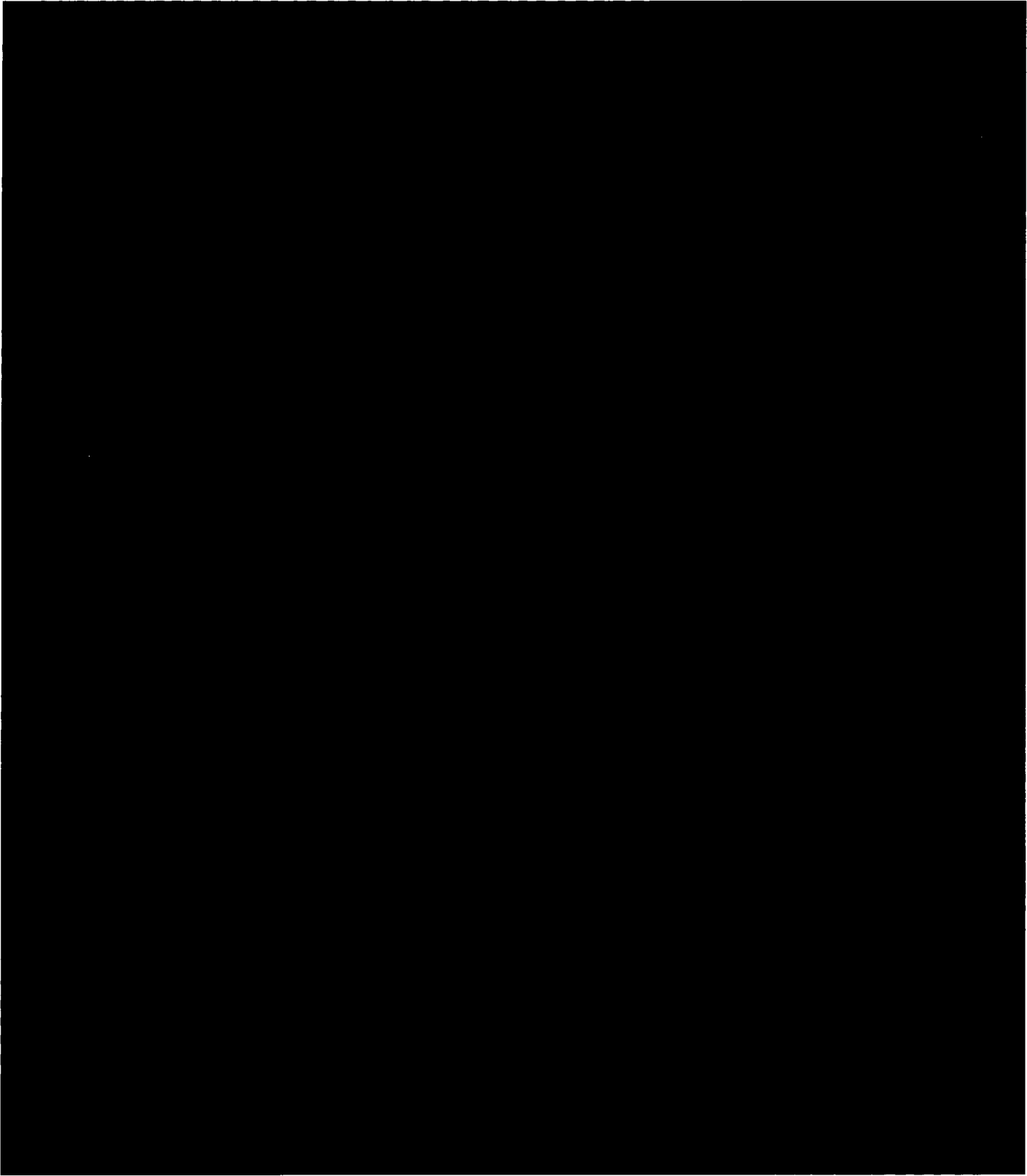
Title: Regulatory Consultant Staff

Sponsored By: Scott E. Mertz

Title: Regulatory Consultant Staff







**SOAH DOCKET NO. 473-21-0538
PUC DOCKET NO. 51415**

**APPLICATION OF SOUTHWESTERN § BEFORE THE STATE OFFICE
ELECTRIC POWER COMPANY FOR § OF
AUTHORITY TO CHANGE RATES § ADMINISTRATIVE HEARINGS**

DIRECT TESTIMONY AND ATTACHMENTS

OF

SCOTT NORWOOD

ATTACHMENT SN-9

Excerpt from SWEPCO Witness Mertz's Rebuttal Testimony in PUC Docket No. 50997

SOAH DOCKET NO. 473-20-4204

PUC DOCKET NO. 50997

PUBLIC UTILITY COMMISSION OF TEXAS

APPLICATION OF
SOUTHWESTERN ELECTRIC POWER COMPANY
FOR AUTHORITY TO RECONCILE FUEL COSTS

REBUTTAL TESTIMONY OF
SCOTT E. MERTZ
FOR
SOUTHWESTERN ELECTRIC POWER COMPANY

JANUARY 28, 2021

1 economic minimum, then the unit was economically dispatched in the market. The
2 average dispatch range for the solid fuel units between their economic minimum level
3 and maximum output level covers 58% of the unit's output range – meaning regardless
4 of the unit's commitment status, the majority of the unit's capability is made available
5 for economic dispatch.
6

7 VII. REGULATION AND OPERATING RESERVE SERVICES

8 Q. IS MR NORWOOD CORRECT THAT REGULATION AND OPERATING
9 RESERVE SERVICES ARE PURCHASED POWER CAPACITY OR DEMAND
10 RELATED COSTS?

11 A. No, he is not. Regulation and operating reserve service purchases are energy-related
12 amounts recorded in FERC Account 555 Purchased Power and are appropriately
13 included in eligible fuel expense. It is my understanding that Mr. Norwood made a
14 similar allegation in a Southwestern Public Service Company (SPS) fuel reconciliation
15 case, Docket No. 48973, where the cities group he represented alleged that operating
16 reserves were an element of capacity, not energy. The Administrative Law Judges
17 (ALJs) and Commission disagreed, with the ALJs concluding "ancillary services
18 should be treated as energy."¹

¹ Like SWEPCO, SPS participates in the SPP. SOAH Docket No. 473-19-1644, PUC Docket No. 48973, Proposal for Decision at 14 and Order on Rehearing at Finding of Fact no. 98 (Feb. 18, 2020)

**SOAH DOCKET NO. 473-21-0538
PUC DOCKET NO. 51415**

**APPLICATION OF SOUTHWESTERN § BEFORE THE STATE OFFICE
ELECTRIC POWER COMPANY FOR § OF
AUTHORITY TO CHANGE RATES § ADMINISTRATIVE HEARINGS**

DIRECT TESTIMONY AND ATTACHMENTS

OF

SCOTT NORWOOD

WORKPAPERS

PUC Dkt No. 51415
SWEPCO Rate Case
Summary of Norwood Adjustments (Total Company)

Dolet Hills Non-fuel O&M	-\$12,466,950
Retired Gas Unit Non-fuel O&M	\$9,581,403
CAJUN Agt Operating Reserves	
Coal & Lignite Inventory (Rate Base)	-\$54,459,773

DOLET HILLS O&M - RET 12/21

CARD Recommended Adjustment to Requested Dolet Hills O&M Expense

	<u>MW</u>	<u>MWh</u>	<u>NFOM</u>	<u>NFOM, \$/kW</u>	<u>CF</u>
2016	257	1,389,838	\$19,638,373	\$76.4	61.7%
2017	257	795,019	\$18,018,269	\$70.1	35.3%
2018	257	496,345	\$14,664,528	\$57.1	22.0%
2019	257	463,288	\$10,652,719	\$41.5	20.6%
TY 4/19-3/20	257		\$12,466,950	\$48.5	0.0%
SWP Adj to TY			<u>\$0</u>		
SWP Request			\$12,466,950		
CARD Adjustment			<u>-\$12,466,950</u>		
CARD Recommended			\$0		

CARD Recommended Adjustment for Retired Gas Unit O&M Expense

LIEBERMAN O&M - UN2 RET 5/20

	<u>MW</u>	<u>MWh</u>	<u>NFOM</u>	<u>NFOM, \$/kW</u>	<u>CF</u>	<u>\$/MWh</u>
2016	242	56,817	\$4,499,271	\$18.6	2.7%	\$79
2017	242	35,012	\$5,729,746	\$23.7	1.7%	\$164
2018	242	66,732	\$4,792,443	\$19.8	3.1%	\$72
2019	242	77,862	\$4,976,341	\$20.6	3.7%	\$64
TYE 3/31/20	217		\$4,878,929	\$20.2	0.0%	
SWP Adj to TY			<u>-\$81,690</u>			
SWP Request	217		\$4,797,239			
CARD RECOM	217	CARD RECOM:	\$4,374,907	\$20.2		
		CARD ADJUST:	-\$422,332			

KNOX LEE O&M - UN2&3 RET 5/20, UN4 RET 1/19

	<u>MW</u>	<u>MWh</u>	<u>NFOM</u>	<u>NFOM, \$/kW</u>	<u>CF</u>	<u>\$/MWh</u>
2016	469	136,800	\$5,888,025	\$12.6	3.3%	\$43
2017	469	51,891	\$6,569,673	\$14.0	1.3%	\$127
2018	469	142,518	\$7,144,416	\$15.2	3.5%	\$50
2019	390	107,853	\$6,075,141	\$15.6	3.2%	\$56
Test Year	390		\$5,902,713	\$15.1	0.0%	
SWP Adj to TY			<u>-\$30,193</u>			
SWP Request	344		\$5,872,520	\$17.1		
	344	CARD RECOM:	\$5,206,496	\$15.1		
		CARD ADJUST:	-\$666,024			

LONE STAR O&M - UN1 RET 5/20

	<u>MW</u>	<u>MWh</u>	<u>NFOM</u>	<u>NFOM, \$/kW</u>	<u>CF</u>	<u>\$/MWh</u>
2016	50	8,530	\$779,438	\$15.6	1.9%	\$91
2017	50	1,131	\$118,002	\$2.4	0.3%	\$104
2018	50	5,918	\$387,665	\$7.8	1.4%	\$66
2019	50	11,736	\$470,420	\$9.4	2.7%	\$40
TY (4/19-3/20)	50		\$499,640	\$10.0	0.0%	
SWP Adj to TY			<u>-\$486,326</u>			
SWP Request			\$13,314			
		CARD RECOM:	\$0	\$8.6		
		CARD ADJUST:	-\$13,314			

TOTAL SWEPCO REQUEST: **\$10,683,073**

TOTAL CARD RECOM: **\$9,581,403**

TOTAL CARD ADJUST: **-\$1,101,670**

CARD Recommended Adjustment to Coal and Lignite Inventory

Plant	SWEP CO MW	Fuel Type	Target Inventory Days Full Load	Target Inventory Tons	Requested Inventory, \$	Avg Inventory Value, \$/Ton	TY Avg Burn Tons per Day	Recommended Inventory Tons Avg Burn	Recommended Inventory	Recommended Inventory Adjustment, \$
Flint Creek	258	Sub-Bituminous	30	230,694	\$7,184,879	\$31.04	3,242	97,251	\$3,018,671	-\$4,166,208
Pirkey	580	Lignite	30	397,530	\$16,962,044	\$50.24	5,331	159,915	\$8,034,130	-\$8,927,914
Turk	650	Sub-Bituminous	30	235,328	\$8,404,762	\$37.48	5,316	159,468	\$5,976,861	-\$2,427,901
Welsh	1053	Sub-Bituminous	30	475,294	\$17,978,663	\$37.67	6,698	200,937	\$7,569,297	-\$10,409,366
Dolet Hills	257	Lignite	45	<u>581,344</u>	<u>\$28,528,383</u>	\$121.97	1,150	0	<u>\$0</u>	<u>-\$28,528,383</u>
				1,920,191	\$79,058,731			617,571	\$24,598,958	-\$54,459,773
		Coal		941,317	\$33,568,304					
		Lignite		<u>978,874</u>	<u>\$45,490,427</u>					
				1,920,191	\$79,058,731					

<u>Plant/Unit</u>	<u>MW</u>	<u>Retirement Date</u>
Knox Lee Unit 2	30	5/1/20
Knox Lee Unit 3	31	5/1/20
Knox Lee Unit 4	30	1/1/19
Lieberman Unit 2	26	5/1/20
Lone Star Unit 1	<u>50</u>	5/1/20
Total Retired	167	

<u>Year</u>	<u>Coal</u>	<u>Lignite</u>	<u>Total</u>
2014	13,003,710	5,564,011	18,567,721
2015	10,055,152	5,749,048	15,804,200
2016	8,333,489	5,763,315	14,096,804
2017	10,294,571	4,486,396	14,780,967
2018	9,815,696	4,436,723	14,252,419
2019	8,676,347	3,110,283	11,786,630
Decrease:			36.5%

	Natural Gas \$/MMBtu	Dolet Hills MWh	Pukey MWh	Welsh	Flint Creek	Turk	Total Coal/Lig	Total Excl Dolet	Coal	Lignite	Total
2014	4.41	1,188,358	4,375,653	7,982,240	1,809,118	3,212,352	#####	17,379,363	13,003,710	5,564,011	18,567,721
2015	2.66	1,783,181	3,965,867	6,130,770	1,520,984	2,403,398	#####	14,021,019	10,055,152	5,749,048	15,804,200
2016	2.46	1,389,838	4,373,477	4,489,529	1,035,145	2,808,815	#####	12,706,966	8,333,489	5,763,315	14,096,804
2017	3.11	795,019	3,691,377	5,582,253	1,391,373	3,320,945	#####	13,985,948	10,294,571	4,486,396	14,780,967
2018	3.09	496,345	3,940,378	5,456,369	1,282,866	3,076,461	#####	13,756,074	9,815,696	4,436,723	14,252,419
2019	2.63	472,161	2,638,122	4,544,884	1,188,428	2,943,035	#####	11,314,469	8,676,347	3,110,283	11,786,630
MW		262	580	1056	264	477	2,638	2,377	1,797	842	2,638
CF Perf											
2014		51.9%	86.1%	86.3%	78.2%	77.0%	80.3%	83.5%	82.6%	75.5%	80.3%
2015		77.8%	78.0%	66.3%	65.8%	57.6%	68.4%	67.3%	63.9%	78.0%	68.4%
2016		60.7%	86.1%	48.5%	44.8%	67.3%	61.0%	61.0%	53.0%	78.2%	61.0%
2017		34.7%	72.6%	60.3%	60.2%	79.6%	64.0%	67.2%	65.4%	60.9%	64.0%
2018		21.7%	77.5%	59.0%	55.5%	73.7%	61.7%	66.1%	62.4%	60.2%	61.7%
2019		20.6%	51.9%	49.1%	51.4%	70.5%	51.0%	54.3%	55.1%	42.2%	51.0%
Fuel Cost											
2014		\$50,930,140	\$141,310,588								
2015		\$81,398,100	\$142,239,659								
2016		\$68,129,085	\$154,848,540								
2017		\$34,779,021	\$126,144,369								
2018		\$50,624,940	\$136,094,916								
2019		\$55,286,376	\$113,500,361								
Fuel Cost, \$/Mmbtu											
2014		\$3.75	\$2.95								
2015		\$3.94	\$3.28								
2016		\$4.27	\$3.32								
2017		\$3.74	\$3.17								
2018		\$7.90	\$3.55								
2019		\$9.34	\$3.99								
Fuel Cost, \$/MWh											
2014		\$42.86	\$32.29								
2015		\$45.65	\$35.87								
2016		\$49.02	\$35.41								
2017		\$43.75	\$34.17								
2018		\$102.00	\$34.54								
2019		\$117.09	\$43.02								

SOUTHWESTERN ELECTRIC POWER COMPANY
Lignite Plant O&M Expense (Dolet Hills)

Steam Power Generation - Operation

No	(1) FERC	(2) Description	(3) Total	(4) Apr-19	(5) May-19	(6) Jun-19	(7) Jul-19	(8) Aug-19	(9) Sep-19	(10) Oct-19	(11) Nov-19	(12) Dec-19	(13) Jan-20	(14) Feb-20	(15) Mar-20	(16) Total
1		<u>Steam Power Generation - Operation</u>														
2	5000	Oper Supervision & Engineering	#DIV/0!	38,084	40,866	129,536	55,786	53,949	56,584	52,913	44,649	40,824	39,055	388,290	59,978	1,000,513
3	5020	Steam Expenses	#DIV/0!	91,520	62,468	128,907	92,439	178,707	113,206	139,048	101,799	110,108	115,622	92,967	131,053	1,357,844
4	5050	Electric Expenses	#DIV/0!	34,464	25,280	44,707	43,472	62,697	36,283	55,804	26,984	31,857	49,686	29,037	42,963	483,234
5	5060	Misc Steam Power Expenses	#DIV/0!	93,371	146,438	314,428	248,806	322,562	334,030	417,569	197,784	277,917	470,187	256,328	728,345	3,807,766
6	5070	Rents	#DIV/0!	47	47	47	47	47	47	47	47	47	70	70	70	634
7	5090	Allowance Consumption SO2	#DIV/0!	-	-	-	-	-	-	-	-	-	-	-	-	-
8			#DIV/0!	257,486	275,100	617,625	440,551	617,963	540,150	665,381	371,264	460,753	674,618	766,692	962,409	6,649,991
9		<u>Steam Power Generation - Maintenance</u>														
10	5100	Maint Supv & Engineering	#DIV/0!	32,901	40,917	34,729	39,950	72,275	1,630	45,237	8,955	28,609	58,289	(2,070)	32,826	394,249
11	5110	Maintenance of Structures	#DIV/0!	18,256	48,929	30,059	28,686	25,699	(36,899)	(7,598)	(2,130)	27,754	32,509	11,553	23,358	200,177
12	5120	Maintenance of Boiler Plant	#DIV/0!	(169,372)	81,527	473,360	208,233	292,358	330,960	366,339	118,870	110,600	364,089	186,181	1,583,926	3,947,061
13	5130	Maintenance of Electric Plant	#DIV/0!	1,878	5,752	10,377	15,321	24,358	2,390	26,084	4,760	13,360	43,318	7,728	19,432	174,758
14	5140	Maintenance of Misc Steam Plt	#DIV/0!	43,182	28,680	98,027	51,368	101,066	84,542	118,315	120,844	85,997	78,749	78,547	211,396	1,100,713
15			#DIV/0!	(73,155)	205,805	646,542	343,559	515,755	382,623	548,377	251,299	266,321	576,954	281,939	1,870,939	5,816,958
16		<u>Other Power Generation - Operation</u>														
17	5460	Oper Supervision & Engineering	#DIV/0!	-	-	-	-	-	-	-	-	-	-	-	-	-
18	5480	Generation Expenses	#DIV/0!	-	-	-	-	-	-	-	-	(3)	-	-	-	(3)
19	5490	Misc Other Pwr Generation Exp	#DIV/0!	-	-	-	-	21	(18)	-	-	-	-	-	-	3
20			#DIV/0!	-	-	-	-	21	(18)	-	-	(3)	-	-	-	0
21		<u>Other Power Generation - Maintenance</u>														
22	5510	Maint Supv & Engineering	#DIV/0!	-	-	-	-	-	-	-	8	(9)	-	-	-	(1)
23	5520	Maintenance of Structures	#DIV/0!	-	-	-	-	-	-	-	-	-	-	-	-	-
24	5530	Maintenance of Generating Plt	#DIV/0!	6	21	(21)	(3)	(3)	2	(3)	-	(6)	1	(0)	(0)	(7)
25	5540	Maint of Misc Oth Pwr Generation	#DIV/0!	-	-	-	-	-	-	-	-	-	-	-	-	-
26			#DIV/0!	6	21	(21)	(3)	(3)	2	(3)	8	(15)	1	(0)	(0)	(8)
27		<u>Other Power Supply Expenses - Operation</u>														
28	5560	Sys Control & Load Dispatching	#DIV/0!	-	-	-	-	-	-	-	-	-	-	-	-	-
29	5570	Other Expenses	#DIV/0!	-	-	-	-	-	-	-	-	-	-	-	-	-
30			#DIV/0!	-	-	-	-	-	-	-	-	-	-	-	-	-
31																
32		Total Production O&M (excluding Fuel and Purchased Power)	#DIV/0!	184,337	480,926	1,264,146	784,106	1,133,736	922,757	1,213,765	622,572	727,055	1,251,573	1,048,631	2,833,348	12,466,942
																12,466,950

NOTE

- Production costs not directly incurred by the plant were allocated on the basis of direct amounts incurred by FERC account
- Other Power Supply Expenses were not allocated to individual plants

SOUTHWESTERN ELECTRIC POWER COMPANY
Lignite Plant O&M Expense (Pirkey)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Line No	FERC	Description	Percent Total	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Total
1		<u>Steam Power Generation - Operation</u>														
2	5000	Oper Supervision & Engineering	#DIV/0!	308,122	281,449	701,953	394,094	310,327	249,046	383,962	285,118	296,831	470,485	585,045	607,798	4,874,230
3	5020	Steam Expenses	#DIV/0!	88,378	100,395	75,613	97,637	80,299	93,893	98,780	98,787	152,704	75,974	(10,192)	8,346	960,614
4	5050	Electric Expenses	#DIV/0!	47,322	49,886	135,305	59,824	31,514	87,827	6,241	7,780	263,215	29,489	7,614	92,422	818,417
5	5060	Misc Steam Power Expenses	#DIV/0!	96,112	164,427	68,061	76,992	89,109	364,325	533,112	34,041	162,612	120,837	118,969	161,862	1,990,458
6	5070	Rents	#DIV/0!	269	269	269	269	269	269	269	269	269	395	395	395	3,604
7	5090	Allowance Consumption SO2	#DIV/0!	-	-	-	-	-	-	-	-	-	-	-	-	-
8			#DIV/0!	540,203	596,406	981,200	628,815	511,517	795,359	1,022,363	425,994	875,630	697,180	701,831	870,824	8,647,323
9		<u>Steam Power Generation - Maintenance</u>														
10	5100	Maint Supv & Engineering	#DIV/0!	112,281	122,902	94,150	144,474	188,393	127,965	191,929	142,385	162,554	92,226	(4,569)	8,376	1,383,067
11	5110	Maintenance of Structures	#DIV/0!	83,268	100,163	61,088	90,063	52,845	70,524	54,370	78,774	167,721	75,517	82,499	71,538	988,369
12	5120	Maintenance of Boiler Plant	#DIV/0!	539,750	707,767	497,271	710,384	502,478	1,252,520	1,117,660	361,991	931,761	456,044	303,478	498,465	7,879,569
13	5130	Maintenance of Electric Plant	#DIV/0!	126,702	181,530	(62,882)	13,808	29,134	259,405	420,527	191,284	367,001	137,803	64,784	53,262	1,782,359
14	5140	Maintenance of Misc Steam Plt	#DIV/0!	104,926	104,465	119,395	142,070	107,304	80,845	251,390	98,700	245,053	122,118	124,649	129,076	1,629,992
15			#DIV/0!	966,928	1,216,828	709,023	1,100,799	880,153	1,791,259	2,035,876	873,133	1,874,091	883,708	570,840	760,717	13,663,355
16		<u>Other Power Generation - Operation</u>														
17	5460	Oper Supervision & Engineering	#DIV/0!	-	-	(8,484)	-	-	-	-	-	-	-	9,100	-	616
18	5480	Generation Expenses	#DIV/0!	-	-	-	-	-	-	-	-	(17)	-	-	-	(17)
19	5490	Misc Other Pwr Generation Exp	#DIV/0!	-	-	-	-	119	(100)	-	-	-	-	-	-	19
20			#DIV/0!	-	-	(8,484)	-	119	(100)	-	-	(17)	-	9,100	-	618
21		<u>Other Power Generation - Maintenance</u>														
22	5510	Maint Supv & Engineering	#DIV/0!	-	-	-	-	-	-	-	48	(54)	-	-	-	(6)
23	5520	Maintenance of Structures	#DIV/0!	-	-	-	-	-	-	-	-	-	-	-	-	-
24	5530	Maintenance of Generating Plt	#DIV/0!	34	118	(120)	(17)	(16)	9	(16)	-	(33)	4	(2)	(2)	(41)
25	5540	Maint of Misc Oth Pwr Generation	#DIV/0!	-	-	-	-	-	-	-	-	-	-	-	-	-
26			#DIV/0!	34	118	(120)	(17)	(16)	9	(16)	48	(87)	4	(2)	(2)	(47)
27		<u>Other Power Supply Expenses - Operation</u>														
28	5560	Sys Control & Load Dispatching	#DIV/0!	-	-	-	-	-	-	-	-	-	-	-	-	-
29	5570	Other Expenses	#DIV/0!	-	-	-	-	-	-	-	-	-	-	-	-	-
30			#DIV/0!	-	-	-	-	-	-	-	-	-	-	-	-	-
31																
32		Total Production O&M (excluding Fuel and Purchased Power)	#DIV/0!	1,507,165	1,813,352	1,681,619	1,729,597	1,391,773	2,586,528	3,058,223	1,299,175	2,749,617	1,580,893	1,281,769	1,631,538	22,311,250

NOTE

- Production costs not directly incurred by the plant were allocated on the basis of direct amounts incurred by FERC account
- Other Power Supply Expenses were not allocated to individual plants

SOUTHWESTERN ELECTRIC POWER COMPANY
Natural Gas Plant O&M Expense (Knox Lee)

Line No	(1) FERC	(2) Description	(3) Percent Total	(4) Apr-19	(5) May-19	(6) Jun-19	(7) Jul-19	(8) Aug-19	(9) Sep-19	(10) Oct-19	(11) Nov-19	(12) Dec-19	(13) Jan-20	(14) Feb-20	(15) Mar-20	(16) Total
1		<u>Steam Power Generation - Operation</u>														
2	5000	Oper Supervision & Engineering	#DIV/0!	77,213	72,605	81,701	89,843	74,364	69,121	126,018	98,287	100,202	101,435	14,811	41,177	946,777
3	5020	Steam Expenses	#DIV/0!	56,355	17,626	28,991	27,608	21,477	30,847	36,595	57,094	48,310	26,936	21,669	26,926	400,435
4	5050	Electric Expenses	#DIV/0!	3,008	3,044	2,968	642	(4)	563	1,135	357	499	2,411	601	-	15,223
5	5060	Misc Steam Power Expenses	#DIV/0!	19,152	33,677	24,459	21,397	29,121	106,441	279,236	86,069	(217,810)	53,985	37,075	79,663	552,466
6	5070	Rents	#DIV/0!	11	11	11	11	11	11	11	11	11	16	16	16	148
7	5090	Allowance Consumption SO2	#DIV/0!	-	-	-	-	-	-	-	-	-	-	-	-	-
8			#DIV/0!	155,738	126,963	138,130	139,501	124,968	206,982	442,996	241,818	(68,788)	184,785	74,172	147,782	1,915,048
9		<u>Steam Power Generation - Maintenance</u>														
10	5100	Maint Supv & Engineering	#DIV/0!	16,251	12,108	11,698	13,344	16,679	14,328	9,816	23,966	11,608	9,371	10,262	829	150,260
11	5110	Maintenance of Structures	#DIV/0!	40,298	28,015	9,916	43,686	44,898	34,864	44,961	17,747	19,990	20,436	21,518	30,229	356,557
12	5120	Maintenance of Boiler Plant	#DIV/0!	260,171	195,370	215,676	232,691	216,638	217,259	303,062	319,290	381,941	92,420	185,216	212,132	2,831,866
13	5130	Maintenance of Electric Plant	#DIV/0!	4,978	9,645	12,666	10,828	5,248	13,846	16,776	187,457	198,711	33,589	14,634	12,371	520,750
14	5140	Maintenance of Misc Steam Plt	#DIV/0!	9,665	7,369	6,661	4,392	4,946	3,464	20,918	7,615	10,637	5,446	30,576	16,055	127,744
15			#DIV/0!	331,363	252,508	256,616	304,941	288,409	283,761	395,534	556,076	622,887	161,262	262,206	271,615	3,987,178
16		<u>Other Power Generation - Operation</u>														
17	5460	Oper Supervision & Engineering	#DIV/0!	-	-	(6,709)	-	-	-	-	-	-	-	7,197	-	488
18	5480	Generation Expenses	#DIV/0!	-	-	-	-	-	-	-	-	(1)	-	-	-	(1)
19	5490	Misc Other Pwr Generation Exp	#DIV/0!	-	-	-	-	5	(4)	-	-	-	-	-	-	1
20			#DIV/0!	-	-	(6,709)	-	5	(4)	-	-	(1)	-	7,197	-	488
21		<u>Other Power Generation - Maintenance</u>														
22	5510	Maint Supv & Engineering	#DIV/0!	-	-	-	-	-	-	-	2	(2)	-	-	-	(0)
23	5520	Maintenance of Structures	#DIV/0!	-	-	-	-	-	-	-	-	-	-	-	-	-
24	5530	Maintenance of Generating Plt	#DIV/0!	1	5	(5)	(1)	(1)	0	(1)	-	(1)	0	(0)	(0)	(2)
25	5540	Maint of Misc Oth Pwr Generation	#DIV/0!	-	-	-	-	-	-	-	-	-	-	-	-	-
26			#DIV/0!	1	5	(5)	(1)	(1)	0	(1)	-	(1)	0	(0)	(0)	(2)
27		<u>Other Power Supply Expenses - Operation</u>														
28	5560	Sys Control & Load Dispatching	#DIV/0!	-	-	-	-	-	-	-	-	-	-	-	-	-
29	5570	Other Expenses	#DIV/0!	-	-	-	-	-	-	-	-	-	-	-	-	-
30			#DIV/0!	-	-	-	-	-	-	-	-	-	-	-	-	-
31																
32		Total Production O&M (excluding Fuel and Purchased Power)	#DIV/0!	487,103	379,476	388,032	444,442	413,381	490,740	838,529	797,894	554,097	346,046	343,575	419,397	5,902,713

NOTE

- Production costs not directly incurred by the plant were allocated on the basis of direct amounts incurred by FERC account
- Other Power Supply Expenses were not allocated to individual plants

SOUTHWESTERN ELECTRIC POWER COMPANY
Natural Gas Plant O&M Expense (Lieberman)

Line No	(1) FERC	(2) Description	(3) Percent Total	(4) Apr-19	(5) May-19	(6) Jun-19	(7) Jul-19	(8) Aug-19	(9) Sep-19	(10) Oct-19	(11) Nov-19	(12) Dec-19	(13) Jan-20	(14) Feb-20	(15) Mar-20	(16) Total
1		<u>Steam Power Generation - Operation</u>														
2	5000	Oper Supervision & Engineering	#DIV/0!	37,260	32,221	35,292	35,711	35,316	21,028	21,302	15,465	18,942	13,071	10,419	16,699	292,726
3	5020	Steam Expenses	#DIV/0!	56,136	27,071	13,659	17,034	12,613	16,111	4,428	41,880	35,620	238,667	184,810	173,201	821,230
4	5050	Electric Expenses	#DIV/0!	41,114	39,152	56,832	83,243	70,849	44,966	86,638	21,603	40,828	929	(1,982)	76	484,048
5	5060	Misc Steam Power Expenses	#DIV/0!	111,719	109,275	97,746	167,232	157,976	212,665	187,846	198,441	264,980	50,710	41,833	33,064	1,633,488
6	5070	Rents	#DIV/0!	8	8	8	8	8	8	8	8	8	12	12	12	107
7	5090	Allowance Consumption SO2	#DIV/0!	-	-	-	-	-	-	-	-	-	-	-	-	-
8			#DIV/0!	246,237	207,727	203,538	303,228	276,562	294,777	300,223	277,397	360,378	303,389	235,092	223,052	3,231,599
9		<u>Steam Power Generation - Maintenance</u>														
10	5100	Maint Supv & Engineering	#DIV/0!	19,684	23,231	15,672	23,461	12,321	2,048	5,850	3,486	3,372	4,719	2,958	2,786	119,588
11	5110	Maintenance of Structures	#DIV/0!	26,578	4,154	5,213	16,433	26,396	27,235	11,084	7,299	68,487	23,322	25,919	24,985	267,105
12	5120	Maintenance of Boiler Plant	#DIV/0!	170,451	100,923	185,373	113,251	85,532	80,459	55,752	36,192	139,523	38,807	31,823	59,173	1,097,269
13	5130	Maintenance of Electric Plant	#DIV/0!	5,785	4,452	17,321	6,478	16,676	(6,720)	8,007	3,645	1,991	(79)	2,620	4,255	64,430
14	5140	Maintenance of Misc Steam Pll	#DIV/0!	2,858	6,077	4,659	2,885	3,393	5,645	543	391	1,327	55,669	13,686	1,575	98,710
15			#DIV/0!	225,357	138,838	228,238	162,508	144,318	108,667	81,236	51,013	214,700	122,437	77,006	92,774	1,547,091
16		<u>Other Power Generation - Operation</u>														
17	5460	Oper Supervision & Engineering	#DIV/0!	-	-	(3,314)	-	-	-	-	-	-	-	3,554	-	240
18	5480	Generation Expenses	#DIV/0!	-	-	-	-	-	-	-	-	(1)	-	-	-	(1)
19	5490	Misc Other Pwr Generation Exp	#DIV/0!	-	-	-	-	4	(3)	-	-	-	-	-	-	1
20			#DIV/0!	-	-	(3,314)	-	4	(3)	-	-	(1)	-	3,554	-	240
21		<u>Other Power Generation - Maintenance</u>														
22	5510	Maint Supv & Engineering	#DIV/0!	-	-	-	-	-	-	-	1	(2)	-	-	-	(0)
23	5520	Maintenance of Structures	#DIV/0!	-	-	-	-	-	-	-	-	-	-	-	-	-
24	5530	Maintenance of Generating Pll	#DIV/0!	1	3	(4)	(1)	(0)	0	(0)	-	(1)	0	(0)	(0)	(1)
25	5540	Maint of Misc Oth Pwr Generation	#DIV/0!	-	-	-	-	-	-	-	-	-	-	-	-	-
26			#DIV/0!	1	3	(4)	(1)	(0)	0	(0)	-	(1)	0	(0)	(0)	(1)
27		<u>Other Power Supply Expenses - Operation</u>														
28	5560	Sys Control & Load Dispatching	#DIV/0!	-	-	-	-	-	-	-	-	-	-	-	-	-
29	5570	Other Expenses	#DIV/0!	-	-	-	-	-	-	-	-	-	-	-	-	-
30			#DIV/0!	-	-	-	-	-	-	-	-	-	-	-	-	-
31																
32		Total Production O&M (excluding Fuel and Purchased Power)	#DIV/0!	471,594	346,569	428,458	465,735	420,882	403,441	381,458	328,411	575,077	425,826	315,652	315,825	4,878,929

NOTE

- Production costs not directly incurred by the plant were allocated on the basis of direct amounts incurred by FERC account
- Other Power Supply Expenses were not allocated to individual plants

SOUTHWESTERN ELECTRIC POWER COMPANY
Natural Gas Plant O&M Expense (Lonestar)

Line No	(1) FERC	(2) Description	(3) Percent Total	(4) Apr-19	(5) May-19	(6) Jun-19	(7) Jul-19	(8) Aug-19	(9) Sep-19	(10) Oct-19	(11) Nov-19	(12) Dec-19	(13) Jan-20	(14) Feb-20	(15) Mar-20	(16) Total
1		<u>Steam Power Generation - Operation</u>														
2	5000	Oper Supervision & Engineering	#DIV/0!	1,012	1,271	4,519	4,090	1,517	4,882	7,227	17,767	9,417	1,251	1,090	1,633	55,675
3	5020	Steam Expenses	#DIV/0!	1,223	20	-	1,069	3,138	12,353	49,144	36,415	3,220	9,111	-	2,120	117,814
4	5050	Electric Expenses	#DIV/0!	0	208	0	721	3,168	5,430	23,824	19,806	(4)	1,297	(0)	3,576	58,026
5	5060	Misc Steam Power Expenses	#DIV/0!	97	377	(4,134)	355	480	1,247	8,882	12,195	289	1,678	164	378	22,009
6	5070	Rents	#DIV/0!	1	1	1	1	1	1	1	1	1	2	2	2	16
7	5090	Allowance Consumption SO2	#DIV/0!	-	-	-	-	-	-	-	-	-	-	-	-	-
8			#DIV/0!	2,333	1,877	386	6,237	8,304	23,914	89,078	86,185	12,924	13,339	1,257	7,708	263,541
9		<u>Steam Power Generation - Maintenance</u>														
10	5100	Maint Supv & Engineering	#DIV/0!	82	75	68	3,766	8,647	34,293	7,465	8,489	10,561	1,183	32	26	74,687
11	5110	Maintenance of Structures	#DIV/0!	6	197	(5)	249	40	900	(4)	551	1,231	8,105	7,823	8,920	28,014
12	5120	Maintenance of Boiler Plant	#DIV/0!	(115)	756	1,426	8,331	2,188	9,072	51,589	16,115	16,204	1,481	6,621	8,944	122,611
13	5130	Maintenance of Electric Plant	#DIV/0!	459	33	1,564	4,141	(104)	26	2,479	484	(1,829)	1,971	43	7	9,273
14	5140	Maintenance of Misc Steam Plt	#DIV/0!	247	1,347	658	1,672	438	92	262	2,739	2,691	8	348	964	11,466
15			#DIV/0!	680	2,408	3,711	18,159	11,208	44,383	61,791	28,378	28,858	12,747	14,867	18,862	246,051
16		<u>Other Power Generation - Operation</u>														
17	5460	Oper Supervision & Engineering	#DIV/0!	-	-	(685)	-	-	-	-	-	-	-	734	-	49
18	5480	Generation Expenses	#DIV/0!	-	-	-	-	-	-	-	-	(0)	-	-	(0)	(0)
19	5490	Misc Other Pwr Generation Exp	#DIV/0!	-	-	-	-	1	(0)	-	-	-	-	-	-	0
20			#DIV/0!	-	-	(685)	-	1	(0)	-	-	(0)	-	734	(0)	49
21		<u>Other Power Generation - Maintenance</u>														
22	5510	Maint Supv & Engineering	#DIV/0!	-	-	-	-	-	-	-	0	(0)	-	-	-	(0)
23	5520	Maintenance of Structures	#DIV/0!	-	-	-	-	-	-	-	-	-	-	-	-	-
24	5530	Maintenance of Generating Plt	#DIV/0!	0	1	(1)	(0)	(0)	0	(0)	-	(0)	0	(0)	(0)	(0)
25	5540	Maint of Misc Oth Pwr Generation	#DIV/0!	-	-	-	-	-	-	-	-	-	-	-	-	-
26			#DIV/0!	0	1	(1)	(0)	(0)	0	(0)	-	(0)	0	(0)	(0)	(0)
27		<u>Other Power Supply Expenses - Operation</u>														
28	5560	Sys Control & Load Dispatching	#DIV/0!	-	-	-	-	-	-	-	-	-	-	-	-	-
29	5570	Other Expenses	#DIV/0!	-	-	-	-	-	-	-	-	-	-	-	-	-
30			#DIV/0!	-	-	-	-	-	-	-	-	-	-	-	-	-
31																
32		Total Production O&M (excluding Fuel and Purchased Power)	#DIV/0!	3,013	4,286	3,412	24,395	19,512	68,296	150,869	114,562	41,782	26,086	16,857	26,570	499,640

NOTE

- Production costs not directly incurred by the plant were allocated on the basis of direct amounts incurred by FERC account
- Other Power Supply Expenses were not allocated to individual plants

CD ATTACHED

**TO VIEW PLEASE CONTACT
CENTRAL RECORDS
512-936-7180**